

## ABSTRACT

An orbital downhole separator for separating well fluids into constituents of different specific gravities. Specifically, it is designed to separate water from oil or gas. The apparatus comprises a housing with a rotating member therein driven by a motor in the housing. Well fluid flows through the rotating member and is subjected to centrifugal force to separate the components. A flow conditioner is used to facilitate separation. The invention includes several different versions of the flow conditioner including an impeller, a stator and controllers for controlling the speed of the motor in response to signals related to the amount of petroleum in the water.